

Fig. 6. *Brachiolites racemosus*: the right-hand portion shows the form of the arms as seen on outside of flint; the left-hand portion shows the root and longitudinal sections of several arms, p. 364.

— 7. *Brachiolites tubulatus*, p. 366.

Pl. XVI. (all in chalk).

Fig. 1. *Brachiolites foliaceus*: the lower part showing the outside, the upper part a vertical section, p. 364.

— 2. *Brachiolites digitatus*, p. 365.

— 3. *Brachiolites fenestratus*, p. 367.

— 4. *Brachiolites labrosus*, p. 368.

— 5. *Brachiolites protensus*, p. 369.

XII.—Remarks on the Migrations of Aphides.

By FRANCIS WALKER, F.L.S.

From the great Author all that lives
Its stated boon of life receives.

Ere long again restored to thee;
Each insect too minute to name
Yet owns a portion of thy flame,
Part of thy numerous family.

Resplendent cars of fiery glow
From realms of light to earth below
Thy animated offspring bear;
And when this mortal trial ends,
Again the glorious car attends
To wing them to their native sphere.

Lorenzo de Medici.

In the following notice I have enumerated some of the species of *Aphis* that migrate at regular periods from one kind of plant to another, or whose food has been partly altered by the cultivation of plants. *Aphis Rosæ* migrates from the rose to the teazel; *A. dirrhoda* from the rose to grasses and flags, and the introduction and growth of corn have afforded it a new nourishment, and have consequently modified its habits; and the cultivation of various species of rose brought into this country has also increased its food, and that of *A. Rosæ* and of the three following species: *A. trirrhoda* migrates from the rose to the columbine, and this change of food is probably not aboriginal, but consequent on the cultivation of the latter plant. *A. tetrarhoda* and *A. Rosarum* appear to live only on the rose genus. *A. Avenæ* has its first habitation on grasses, and the cultivation of corn has furnished it with a new and abundant source of food. *A. Capræ* migrates from the willow to umbelliferous plants, and in this case both the winter residence and the summer pasture of the species are aboriginal. The food of *A. Urticaria* is divided between the nettle and the bramble, and both these plants are also original sources. *A. Humuli* lives permanently and aboriginally on the

sloe, and the hop-grounds now provide it with a plentiful provision in the summer. Its presence on the hop is dependent on the proximity of the sloe to the hop-grounds, and these plantations should be inspected, and the extent of the sloes in the vicinity and their distance from the hops ascertained, and the length of the flight of the *Aphis* should also be observed, in order that the hop and the sloe may in time be kept sufficiently remote from each other to confine the *Aphis* to the latter plant and thus to prevent its injuring the hop. *A. Ulmariae* dwells on the broom, and the meadow-sweet is its summer food, and the cultivation of sweet peas, peas, beans, clover, tares, vetches, saintfoin, &c. has added greatly to its means of subsistence. *A. Lactucae* is very abundant on the sow-thistle and some allied plants, and its æconomy is modified by the presence of the lettuce and the black currant in gardens, to both which plants it is very partial. *A. Brassicae* feeds especially on the sea-kale in a wild state, and also on the wild mustard, and the introduction of the cabbage from the South of Europe has added to its food in this country. *A. Pruni* has settled on the plum since that tree was brought into Europe, and it has received the name of *A. Arundinis* from its feeding on the reed, which is its earliest habitation. *A. Mali* and *A. Sorbi* dwell on the white-thorn as well as on the apple, the service, the medlar and the mountain-ash. *A. Persicae* is so named from its having fixed itself on the peach since that tree was planted in Europe, but its other name, *A. Prunicola*, denotes its primitive habitation and food. *A. Juglandis* and *A. Juglandicola* have accompanied or followed the walnut in its successive cultivation westward from Persia, which is its native country, and that of the peach and of the apricot. *A. Abietina* has probably come into England with the spruce fir, and a few other species that feed on the fir-tribe may have also been brought over from the continent. *A. Rubi* abounds on the bramble and on the raspberry, and during the summer is also common on *Geum urbanum*, the common Avens, and on a species of *Epilobium* or willow-herb. *A. Dianthi* (otherwise named *A. vulgaris* and *A. Rapae* and *A. vastator*) feeds on a very great variety of green-house plants. The furze seems to be the principal winter-quarters of *A. Rumicis*, and I observed that it swarmed profusely and laid its eggs on that plant in the autumn of 1846, and the following year was remarkable on account of the devastations of this *Aphis* in the bean-fields; it feeds also on the laburnum, the poppy and the dock, and on very many other plants. It was unusually abundant on the laburnum last year, and great numbers of humble-bees came to feed on its honey. The lady-bird (*Coccinella 7-punctata*) was also extremely common with this *Aphis*, and it promises to be equally so this year, for great numbers have already appeared during March and April.